CLAIMS:

1. A method for digitally recording and time stamping an input audio signal during an audio event, the method comprising:

monitoring the input audio signal;

determining whether the input audio signal satisfies an audio event threshold;

when the input audio signal satisfies the audio event threshold to indicate the existence of the audio event, digitally recording the input audio signal; and

concurrently with digitally recording the input audio signal, recording time-stamp information corresponding to the input audio signal.

2. The method of claim 1, wherein digitally recording the input audio signal corresponding to the audio event is performed according to an audio recording standard selected from the group consisting of PCM encoding, MP3, WMA -Windows Media Architecture-, MP3 PRO, Ogg Vorbis, and AAC - Advanced Audio Coding.

3. The method of claim 1, wherein the time-stamp information is derived from a real-time clock such that the input audio signal is time-stamped with real-time clock data when digitally recorded.

4. The method of claim 1, wherein determining whether the input audio signal satisfies an audio event threshold comprises:

continuously monitoring a voltage level of the input audio signal; and

when the voltage level of the input audio signal exceeds a voltage level threshold, determining that the audio event is ongoing.

5. The method of claim 1, wherein determining whether the input audio signal satisfies an audio event threshold comprises:

continuously converting the input audio signal that is received in an analog format to digital audio data;

analyzing the digital audio data to produce a frequency characterization of the digital audio data; and

comparing the frequency characterization of the digital audio data to a frequency domain template of the audio event threshold.

6. The method of claim 1, wherein determining whether the input audio source satisfies an audio event threshold comprises:

continuously converting the input audio signal that is received in an analog format to digital audio data;

analyzing the digital audio data to produce a time domain characterization of the digital audio data; and

comparing the time domain characterization of the digital audio data to at least one time domain component of the audio event threshold.

7. The method of claim 1, wherein:

monitoring the input audio signal includes measuring a voltage level of the input audio signal;

the input audio signal satisfies the audio event threshold to indicate the existence of the audio event when the voltage level of the input audio signal compares favorably to a voltage level threshold; and

recording the input audio signal and recording time-stamp information corresponding to the input audio signal further comprises:

powering an Analog-to-Digital Converter (ADC) that was previously unpowered;

sampling the input audio signal with the ADC to produce digital audio data;

encoding the digital audio data to produce encoded digital audio data;

generating the time-stamp information from a real-time-clock corresponding to the encoded digital audio data; and

recording the encoded digital audio data and the time-stamp information.

8. The method of claim 7, wherein the ADC is a low-resolution ADC.

9. The method of claim 7, wherein the ADC is a high-resolution ADC.

10. The method of claim 1, wherein:

monitoring the input audio signal includes converting the input audio signal, received in an analog format, to a low-resolution digital audio data using a low-resolution Analog-to-Digital-Converter (ADC);

determining whether the input audio signal satisfies an audio event threshold includes comparing the low-resolution digital audio data to the audio event threshold; and

digitally recording the input audio signal includes:

converting the input audio signal, received in an analog format, to a high-resolution digital audio data using a high-resolution ADC;

encoding the high-resolution digital audio to produce encoded digital audio data;

generating the time-stamp information from a real-time-clock corresponding to the encoded digital audio data; and

recording the encoded digital audio data and the time-stamp information.

11. The method of claim 1, further comprising monitoring the input audio signal only during pre-determined time periods corresponding to when the audio event is expected in order to reduce energy consumption.

12. The method of claim 1, further comprising:

determining that the audio event is no longer ongoing; and

stopping the recording of the input audio signal.

13. An apparatus for digitally recording and time stamping an input audio signal during an audio event, the method comprising:

an input that receives the input audio signal;

an audio event detection module operably coupled to the input that determines whether the input audio signal satisfies an audio event threshold;

digital data recording and time-stamping module operably coupled to the input and to the audio event detection module that records and time stamps the input audio signal when the audio event detection module determines that the audio event is ongoing; and

memory operably coupled to the digital data recording and time-stamping module in which the digital data recording and time-stamping module records the input audio signal.

14. The apparatus of claim 13, wherein the digital data recording and time-stamping module records the corresponding audio event is performed according to an audio recording standard selected from the group consisting of PCM encoding, MP3, WMA -Windows Media Architecture-, MP3 PRO, Ogg Vorbis, and AAC - Advanced Audio Coding.

15. The apparatus of claim 13, further comprising a real-time clock module operably coupled to the digital data recording that provides a real-time clock used for time-stamping the input audio signal.

16. The apparatus of claim 13:

wherein the audio event detection module includes a voltage level monitor operably coupled to the input that determines a voltage level of the input audio signal; and

wherein the audio event detection module determines whether the input audio signal satisfies an audio event threshold by comparing the voltage level of the input signal to a voltage level threshold.

17. The apparatus of claim 13:

wherein the audio event detection module includes an Analog-to-Digital-Converter (ADC) operably coupled to the input that samples the input audio signal to produce digital audio data;

wherein the audio event detection module analyzes the digital audio data to produce a frequency characterization of the digital audio data; and

wherein the audio event detection module compares the frequency characterization of the digital audio data to a frequency domain template of the audio event threshold.

18. The apparatus of claim 13:

wherein the audio event detection module includes an Analog-to-Digital-Converter (ADC) operably coupled to the input that samples the input audio signal to produce digital audio data;

wherein the audio event detection module analyzes the digital audio data to produce a time domain characterization of the digital audio data; and

wherein the audio event detection module compares the time domain characterization of the digital audio data to the audio event threshold, which includes time domain based components.

19. The apparatus of claim 18, wherein the ADC is a low-resolution ADC.

20. The apparatus of claim 18, wherein the ADC is a high-resolution ADC.

21. The apparatus of claim 18, wherein the ADC is powered down during pre-determined time periods corresponding to when the audio event is expected to reduce energy consumption.

22. The apparatus of claim 13, wherein the apparatus is compliant with Universal Serial Bus (USB) Mass-Storage operations.

23. The apparatus of claim 13, further comprising a battery that powers the audio event detection module, the digital data recording and time-stamping module, and the memory.

24. The apparatus of claim 13:

wherein the audio event detection module includes a low-resolution Analog-to-Digital-Converter (ADC) operably coupled to the input and to the audio event detection module that samples the input audio signal to produce low-resolution digital audio data; and

digital data recording and time-stamping module includes a high-resolution ADC operably coupled to the input and to the audio event detection module that samples the input audio signal to produce high-resolution digital audio data.